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data obtained in the course of this work permitted conclusions in regard to the interaction of polar groups in molecules. The work in question led to the result that certain hydrocarbons having a double bond (fluorene, cyclopentadiene, and others) exhibit polarity and permitted a calculation of the share of the ionic state in bonds as well as a quantitative evaluation of the electronic nature of double and triple bonds.

In another series of investigations, Syrkin applied Raman spectroscopy and clarified by this method the structure of (1) certain oxonium compounds, (2) compounds containing the carboxyl group, and (3) substances containing an ethylenic double bond.

The last major subdivision of Syrkin's work consists in applications of quantum-mechanical calculations to the study of the problem of the chemical bond. In the course of these particular investigations, he dealt with the structure of a number of chemical compounds, among them naphthalene and boron hydrides. He explained the nature of boron hydride bonds without using the concept of the single electron bond. In the case of naphthalene, Syrkin clarified the difference in the reactivities of the alpha and beta positions.

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